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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/928,747	08/14/2001	Mehdi Alasti	ALTEP035	8684
25920	7590	10/29/2004		
MARTINE & PENILLA, LLP 710 LAKEWAY DRIVE SUITE 170 SUNNYVALE, CA 94085			EXAMINER STEVENS, ROBERTA A	
			ART UNIT	PAPER NUMBER
			2665	

DATE MAILED: 10/29/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

<b>Office Action Summary</b>	Application No. <span style="float: right;">UK</span> 09/928,747	Applicant(s) ALASTI ET AL.	
	Examiner Roberta A Stevens	Art Unit 2665	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

#### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

#### Status

- 1) ☒ Responsive to communication(s) filed on 14 August 2001.
- 2a) ☐ This action is **FINAL**.                      2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

#### Disposition of Claims

- 4) ☒ Claim(s) 1-25 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-3,5,7-9,11-15,18,19,23 and 24 is/are rejected.
- 7) ☒ Claim(s) 4,6,10,16,17,20-22 and 25 is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

#### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

#### Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All    b) ☐ Some \*    c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

#### Attachment(s)

- |   |   |
|---|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)   | 4) <input type="checkbox"/> Interview Summary (PTO-413)<br>Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)  | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152)             |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)<br>Paper No(s)/Mail Date <u>8-14-01, 1-30-03</u> . | 6) <input type="checkbox"/> Other: _____  |

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***Claim Rejections - 35 USC § 112***

1. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

2. Claim 7 recites the limitation "the group". There is insufficient antecedent basis for this limitation in the claim.
3. Claim 7 is rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

***Claim Rejections - 35 USC § 103***

1. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

2. This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to

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consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

3. Claims 1-3, 5, 8, 9, 11-15, 18, 19, 23 and 24 are rejected under 35 U.S.C. 103(a) as being unpatentable over Excell (U.S. 6714555 B1) in view of Morris (U.S. 6477144 B1).

4. Regarding claim 1, Excell teaches (fig. 1) a method of arbitrating for a switch fabric having a plurality of ports (5), each port being associated with a plurality of links (18), the plurality of ports including a first port and a second port, comprising: selecting a link from a plurality of links associated with the first port based on a weight value (value based on the number of cells in the data stores) associated with each remaining link associated with a candidate packet and being from the plurality of links associated with the first port (col. 5, line41 – col. 6, line43).

5. Excell does not teaches determining a penalty,

6. Morris teaches (figs. 6 and 7) determining a first penalty for a weight vector entity associated with the first port based on a weight value associated with each link from the first subset of links, each link not being associated with a candidate packet (col. 4, lines 18-54 and col. 6, lines 35-50, Morris teaches that when the scheduler detects an empty class (no candidate packets) the scanner bypasses that class, the penalty is that the class is not serviced for that particular cycle). It would have been obvious to one of ordinary skill in the art to adapt to Excell's system Morris' concept of bypassing empty classes to avoid unnecessary use of sources and time in the system.

7. Regarding claim 2, Morris teaches (col. 9, line 58 – col. 4, line 17) the selected link is associated with a weight value greater than a weight value associated the remaining links in the first port; and each link from the first subset of links is associated with a weight value greater than the weight value of the selected link.
8. Regarding claim 3, Excell teaches (fig. 1) selecting a link from a plurality of links associated with the second port based on a weight value (value based on the number of cells in the data stores) associated with each remaining link associated with a candidate packet and being from the plurality of links associated with the second port (col. 5, line41 – col. 6, line43).
9. Excell does not teaches determining a penalty,
10. Morris teaches (figs. 6 and 7) determining a first penalty for a weight vector entity associated with the second port based on a weight value associated with each link from the a subset of links, each link not being associated with a candidate packet (col. 4, lines 18-54 and col. 6, lines 35-50, Morris teaches that when the scheduler detects an empty class (no candidate packets) the scanner bypasses that class, the penalty is that the class is not serviced for that particular cycle). It would have been obvious to one of ordinary skill in the art to adapt to Excell's system Morris' concept of bypassing empty classes to avoid unnecessary use of sources and time in the system.
11. Regarding claim 5, Morris teaches (col. 3, line 58 – col. 4, line 17) incrementing a weight value associated with each link from the plurality of links associated with the first

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port based on a priority associated with each link from the plurality of links associated with the first port. Since Excell teaches more than one port having a plurality of links, It would have been obvious to one of ordinary skill in the art to adapt to Excell's system Morris's incrementing process for incrementing the weight value associated with each link associated the second port based on a priority associated with each link associated with the second port to supply services for accommodating more and different types of data.

12. Regarding claim 8, Morris teaches (col. 3, line 58 – col. 4, line 17) the selecting and the determining are performed for a first timeslot; and the selected link not being subsequently accepted for arbitration.

13. Regarding claim 9, Excell teaches (fig. 1) selecting within the first time slot a second link from a plurality of links associated with the first port based on a weight value (value based on the number of cells in the data stores) associated with each remaining link associated with a candidate packet and being from the plurality of links associated with the first port (col. 5, line41 – col. 6, line43).

14. Excell does not teaches determining a penalty;

15. Morris teaches (figs. 6 and 7) determining for the first time slot, a second penalty for a weight vector entity associated with the first port based on a weight value associated with each link from the first subset of links, each link not being associated with a candidate packet (col. 4, lines 18-54 and col. 6, lines 35-50, Morris teaches that when the scheduler detects an empty class (no candidate packets) the scanner bypasses that class,

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the penalty is that the class is not serviced for that particular cycle). It would have been obvious to one of ordinary skill in the art to adapt to Excell's system Morris' concept of bypassing empty classes to avoid unnecessary use of sources and time in the system.

16. Regarding claim 11, Excell teaches (fig. 1) an apparatus comprising: a selection unit associated with a plurality of links the selection unit being configured to transmit an arbitration signal based on a weight value (value based on the number of cells in the data stores) associated with each link of the plurality of links (col. 5, line 41 – col. 6, line 43).

17. Excell does not teach transmitting a penalty signal and an update unit receiving a penalty signal.

18. Morris teaches (figs. 6 and 7) transmitting a penalty signal (when the empty class is detected by the scheduler it is inherent that a signal is sent to the scanner telling it to bypass that class because it is empty); and an update unit coupled to the selection unit, configured to receive the penalty signal from the selection unit and to receive an accept signal, and transmits an update signal based on the penalty and accept signal (col. 4, lines 18-54 and col. 6, lines 35-50, Morris teaches that when the scheduler detects an empty class (no candidate packets) the scanner bypasses that class, the penalty is that the class is not serviced for that particular cycle). Likewise the scanner receives a signal (accept signal) from the scheduler of which class to scan). It would have been obvious to one of ordinary skill in the art to adapt to Excell's system Morris' concept of bypassing empty classes to avoid unnecessary use of sources and time in the system.

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19. Regarding claim 12, Excell teaches (col. 5, lines 41 - col. 6, line 67) the arbitration signal is associated with a selected link from the plurality of links, associated with a candidate packet and is associated with a weight value greater than a weight value associated with each remaining link associated with a candidate packet.

20. Regarding claim 13, Morris teaches (col. 4, lines 18-54 and col. 6, lines 35-50) the penalty signal is associated with a subset of links not associated with a candidate packet, each link is associated with a weight value greater than the weight value the links associated with the arbitration signal. Morris teaches that when the scheduler detects an empty class (no candidate packets) the scanner bypasses that class. The penalty is that the class is not serviced for that particular cycle. It is inherent that a signal is sent to the scanner informing it to bypass the empty class (no candidate packets).

21. Regarding claim 14, Excell teaches (col. 5, lines 41 - col. 6, line 67) the selection unit is configured to select a link having a candidate packet and having a weight value greater than the weight value of the remaining links having candidate packets.

22. Regarding claim 15, Morris teaches (col. 4, lines 18-54 and col. 6, lines 35-50) the update unit to penalize a weight vector entity based on a subset of links from the plurality of links; and each link does not have a candidate packet and is associated with a weight value greater than the weight value associated with the arbitration link.



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23. Regarding claim 18, Morris teaches (col. 3, line 58 – col. 4, line 17) the update signal indicates an increment to the weight value associated with each link from the plurality of links.

24. Regarding claim 19, Excell teaches (col. 6, lines 16-48) the accept signal indicates whether the link associated with the arbitration signal has been scheduled.

25. Regarding claim 23, Excell teaches (fig. 1) an apparatus comprising: a selection unit associated with a plurality of links the selection unit being configured to transmit within a first time slot, a first arbitration signal based on a weight value (value based on the number of cells in the data stores) associated with each link of the plurality of links (col. 5, line 41 – col. 6, line 43).

26. Excell does not teach transmitting a penalty signal and an update unit receiving a penalty signal.

27. Morris teaches (figs. 6 and 7) transmitting a first penalty signal (when the empty class is detected by the scheduler it is inherent that a signal is sent to the scanner telling it to bypass that class because it is empty); and an update unit coupled to the selection unit, configured to receive, within the first time slot, the first penalty signal from the selection unit and to receive an accept signal, and transmits an update signal based on the penalty and accept signal (col. 4, lines 18-54 and col. 6, lines 35-50, Morris teaches that when the scheduler detects an empty class (no candidate packets) the scanner bypasses that class, the penalty is that the class is not serviced for that particular cycle). Likewise the scanner receives a signal (accept signal) from the scheduler of which class to scan). It would

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have been obvious to one of ordinary skill in the art to adapt to Excell's system Morris' concept of bypassing empty classes to avoid unnecessary use of sources and time in the system.

28. Regarding claim 24, Morris teaches (col. 3, line 58 – col. 4, line 17) the first arbitration signal is associated with a selected link; and the first accept signal indicates that the selected link was not subsequently accepted for arbitration.

***Allowable Subject Matter***

29. Claims 4, 6, 10, 16, 17, 20-22 and 25 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

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***Conclusion***

1. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Roberta A Stevens whose telephone number is 571-272-3161. The examiner can normally be reached on M-F 9:00am-5:30pm.
2. If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Huy Vu can be reached on 571-272-3155. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.
3. Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Roberta A Stevens  
Examiner  
Art Unit 2665



STEVEN NGUYEN  
PRIMARY EXAMINER